

REMARKS

Claim 1 has been amended. Claims 1-8 remain in the case.

New grounds were submitted in the Examiner's answer to the Appeal Brief. The new grounds of rejection are addressed hereinafter.

Claims 1, and 6-8 were rejected under 35 USC 102(b) as being anticipated by DE1210302 ('302). The Examiner now states that since the shoulder (e) in reference '302 is formed at an outward angle with respect to the center section (d) of the piston blank (parallel thereto), the shoulder may be considered to project laterally from the piston blank as claimed. The Examiner states that the term laterally does not require the shoulder and piston blank to be disposed at 90° angles with respect to each other. Claim 1 has now been amended to distinguish over the patent '302. In particular, claim 1 has been amended to feature that at least one circumferential shoulder is formed having a terminating free end spaced from the piston blank and having a length less than a length of the piston blank and projecting laterally from the one portion of the piston blank. Behind the at least one shoulder a recess is introduced from a side of the piston blank and then the at least one shoulder is reshaped by means of deformation such that the recess is closed by the at least one shoulder with the free end of the shoulder directly connected to another portion of the piston blank to create the cooling channel.

Patent '302 does not show or disclose each feature of amended claim 1. In particular, what the Examiner calls a shoulder (e) is actually an outer bell shaped jacket (e). The jacket (e) contributes to the formation of the piston shaft against the shaft (d) in the final stage as shown in Figure 3. Since the jacket (e) actually forms a portion of the piston shaft, the jacket must have a length at least equal to the length of the piston as shown in all of the figures ABB1-6. Further, the free end of the jacket (e) in patent '302 does not have a terminating end that directly connects to another portion of the piston blank. As can be seen, in figures ABB1-6 in patent '302, the terminating end of the jacket (e) extends beyond the piston blank. Only the intermediate inner surface of jacket (e) is connected to the piston blank (d). The process for manufacturing a cooling channel on a piston is disclosed in the present invention where the piston does not have a jacket. The process to provide a cooling channel on a piston without a jacket is different than on a piston with a jacket. Therefore claim 1 is believed to be distinguished from patent '302, and therefore believed to be allowable.

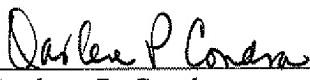
Claims 2-5 were rejected under 35 USC 103(a) as being unpatentable over '302 and Bercham as applied to claim 1 and further in view of the Mechanical Engineers' Handbook. Claims 2-5 are dependent claims, dependent on claim 1 and patentable over the cited art for the same reasons as claim 1.

The previous rejections were as follows: Claim 1 and 6-8 were rejected under 35 USC 103(a) as being unpatentable over patent '302 in view of Bercham (U.S. Patent No. 4,662,047) and claims 2-5 were rejected under 35 USC 103(a) as being unpatentable over patent '302 in view of Bercham (U.S. 4,662,047) and further in view of the Mechanical Engineers' Handbook. Although these rejections are not addressed in the Reply Brief to reopen prosecution, the claims are believed to be allowable for all the reasons cited in the previous Appeal Brief and further as claim 1 is now amended. In addition, there would be no motivation to combine the teaching of Bercham with patent '302, because the intent of jacket (e) contributes to the formation of the piston shaft and the channel; and the shoulder disclosed in Bercham would not provide any further function to the jacketed portion.

This amendment should place this case in condition for passing to issue. Such action is requested. If the Examiner feels that prosecution of the present application can be expedited by way of an Examiner's amendment, the Examiner is invited to contact the Applicant's attorney at the telephone number listed below.

Respectfully submitted,

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